Air Quality Permitting
Statement of Basis

January 27, 2004

Permit to Construct No. P-030103

Merritt Brothers Lumber Co., Athol

Facility ID No. 055-00039

Prepared by:

Dustin Holloway, Permitting Analyst
AIR QUALITY DIVISION

FINAL PERMIT

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Acronyms, Units, and Chemical Nomenclatures

AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
HAPs	hazardous air pollutants
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
MACT	Maximum Achievable Control Technology
NESHAP	Nation Emission Standards for Hazardous Air Pollutants
NO_X	nitrogen oxides
NSPS	New Source Performance Standards
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTC	permit to construct
Rules	*Rules for the Control of Air Pollution in Idaho*
SIP	State Implementation Plan
SO_2	sulfur dioxide
T/yr	tons per year
$\mu g/m^3$	micrograms per cubic meter
VOC	volatile organic compound

1. PURPOSE

The purpose for this memorandum is to satisfy the requirements of IDAPA 58.01.01.200, *Rules for the Control of Air Pollution in Idaho,* for issuing permits to construct.

2. FACILITY DESCRIPTION

Merritt Brothers Lumber upgrades random dimensional lumber delivered to the facility from off-site. The major operations involve the following:

- Remanufacturing (where wide lumber is sawed and trimmed to various smaller standard dimensions).
- Three lumber drying kilns installed between February 2001 and March 2002 without a PTC.
- Planer mill.
- Finger-jointing mill.
- Natural gas-fired boiler to generate steam for the dry kilns and installed in February 2001 without a PTC.
- Chips and shavings are transported pneumatically to storage bins and shipped off-site by trucks.

3. FACILITY / AREA CLASSIFICATION

The facility is not a major facility as defined in IDAPA 58.01.01.006.55 or 008.10. It is not a designated facility as defined in IDAPA 58.01.01.006.27. The facility is not subject to New Source Performance Standards, in accordance with 40 CFR, Part 60; National Emission Standards for Hazardous Air Pollutants, in accordance with 40 CFR, Part 61; or National Emission Standards for Hazardous Air Pollutants for Source Categories (MACT), in accordance with 40 CFR, Part 63. The Standard industrial Classification defining the facility is 2421. The facility is classified as a natural minor (B) source because actual and potential emissions of regulated air pollutants are less than 100 T/yr. The AIRS information provided in the appendix defines the classification for each regulated air pollutant at Merritt Brothers Lumber Co. (MBL).

Merritt Brothers Lumber is located in Athol, Kootenai County, which is in AQCR 62 and Zone 11. Kootenai County is classified as attainment or unclassifiable for all state and federal criteria air pollutants.

4. APPLICATION SCOPE

MBL is proposing to modify their Tier II/PTC issued on November 26, 2002 under AIRs facility No. 055-00039. MBL proposes to increase their daily hours of operation to allow them to operate two 10-hour shifts per day. The current permit only allows two eight-hour shifts per day.

4.1 Application Chronology

February 6, 2003	DEQ received a permit to construct application from MBL for the increase in daily hours of operation.
March 7, 2003	DEQ determined the application complete.
March 13, 2003	A 30-day opportunity for public comment began. The opportunity for public comment ended on April 14, 2003. No comments were received.

June 11, 2003	DEQ received MBL's PTC application fee
June 12, 2003	DEQ issued a PTC processing fee notification letter to MBL
August 29, 2003	DEQ issued a second PTC processing fee notification letter to MBL
October 30, 2003	DEQ issued a third PTC processing fee notification letter to MBL
November 20, 2003	DEQ received MBL's PTC processing fee

5. PERMIT ANALYSIS

Project Description

Merritt brothers proposes to increase the limit on the daily hours of operation of their cyclones and baghouses. The original permit application assumed that the facility would operate in two eight-hour shifts. The facility wants the flexibility to operate the mill in two 10-hour shifts. There would be no change in annual operations. The boiler and kilns will not increase operating hours. The emissions units that will increase daily operating hours will be the cyclones and baghouses.

Emission Estimates

The hourly and annual emissions rates do not change with this permit modification.

Modeling

The applicant estimated the ambient impacts resulting from this permit modification by scaling up the ambient impacts that were estimated when the permit was first issued. The original modeling estimated that the total ambient concentration of PM_{10} would be 54 $\mu g/m^3$. This concentration assumes that the boilers and kilns would be operating 24 hours per day and the mill would operate for 16 hours per day. The only sources that will increase daily operations will be the cyclones and baghouses. Multiplying this concentration by the constant, 20hr/16hr, results in an estimated ambient impact of 67.5 $\mu g/m^3$. This value plus the background concentration of 73 $\mu g/m^3$ results in a total concentration of 140.5 $\mu g/m^3$. This is a conservative estimate of the ambient concentration because it assumes that the boiler and kilns also increase production. Since the boiler and kilns remain at the same permitted rates the estimated ambient impact after the increase in hours of operation will be higher than the actual increase. A brief modeling review is contained in Appendix A.

6. PERMIT REQUIREMENTS

Cyclones and Baghouses

6.1 Emissions Limits

There are no changes to the emissions limits in this permit. No daily limit was established for emissions from the cyclones and baghouses, and the annual production is not being changed with this modification.

6.2 Compliance Demonstration

The facility is required to monitor the daily and monthly hours of operation of the cyclones and baghouses to show compliance with the PM and PM_{10} emissions limits.

7. FEES

MBL paid the $1,000 application fee as required in IDAPA 58.01.01.224 on June 11, 2003. A permit to construct processing fee of $1,000 was required in accordance with IDAPA 58.01.01.225 because the increase in emissions from the modification was less than one T/yr. The processing fee was received on November 20, 2003. The MBL facility is not a major facility as defined in IDAPA 58.01.01.008.10. Therefore, registration fees are not applicable in accordance with IDAPA 58.01.01.387.

8. RECOMMENDATION

Based on review of application materials and all applicable state and federal rules and regulations, staff recommend that MBL be issued modified Tier II Operating Permit/PTC No. P-030103 for the increase in daily hours of operation. No public comment period is recommended, no entity has requested a comment period, and the project does not involve PSD requirements.

DH/sd Permit No. P-030103

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APPENDIX A
Modeling Review

MEMORANDUM

TO: Dustin Holloway, Air Permit Analyst, Air Program Division
Mary Anderson, Air Modeling Coordinator, Air Program Division

FROM: Kevin Schilling, Air Quality Scientist, State Office of Technical Services

SUBJECT: Atmospheric Dispersion Modeling Review for the Merritt Brothers Lumber Company proposed Modification

DATE: May 7, 2003

Merritt Brothers Lumber Company (Merritt Brothers) proposed increasing allowable operating hours for the cyclones and baghouse from 16 hours per day to 24 hours per day. Lorenzen Engineering, Inc. (Lorenzen), Merritt Brothers' consultant, submitted an air quality analysis for the modification to the Department of Environmental Quality (the Department) on February 6, 2003.

The air quality analysis submitted involved estimating impacts based on previous modeling conducted for issuance of their Tier II operating permit. Lorenzen simply multiplied the PM_{10} design concentration from the previous analysis (54 $\mu g/m^3$) by the ratio of new operating hours to existing operating hours (24/16). A background concentration value of 73 $\mu g/m^3$ was added to the result and compared to the 150 $\mu g/m^3$ National Ambient Air Quality Standard.

The Department's Division of Technical Services reviewed this analysis and has the following comments:

1. Because modeled concentrations vary linearly with emissions, the emission ratio method used to estimate impacts is appropriate and acceptable.
2. Modeling conducted for the Tier II operating permit issued, which was used as a basis to estimate impacts for this proposed modification, was not reviewed for this analysis. It was assumed that this modeling was adequately reviewed prior to issuance of the Tier II operating permit. However, the modeling was reviewed sufficiently to conclude that the general methods used in the original modeling were appropriate for the ratio method. This was accomplished by checking that the original modeling did not involve varying emissions by time of day.
3. It was assumed that the annual emissions limits could remain unchanged from the Tier II operating permit, since annual impacts were not discussed in the analysis.
4. It appears that Lorenzen used the maximum 2nd highest modeled concentrations in the previous analysis as the design concentration. The Department allows used of the maximum 6th highest modeled concentration for 24-hour PM_{10}; therefore, the analysis is very conservative.

Lorenzen demonstrated that predicted pollutant concentrations from the proposed modification, when combined with facility-wide emissions and appropriately combined with background concentrations, were below the 24-hour PM_{10} NAAQS.

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Appendix B
AIRS Information

Table A.1 AIRS/AFS[a] FACILITY-WIDE CLASSIFICATION[b] DATA ENTRY FORM

AIR PROGRAM / POLLUTANT	SIP	PSD	NSPS (Part 60)	NESHAP (Part 61)	MACT (Part 63)	TITLE V	AREA CLASSIFICATION A – Attainment U – Unclassifiable N – Nonattainment
SO_2	B						U
NO_X	B						U
CO	B						U
PM_{10}	B						U
PT (Particulate)	B						
VOC	B						U
THAP (Total HAPs)	B						
			APPLICABLE SUBPART				

[a] Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS)

[b] AIRS/AFS Classification Codes:

A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For NESHAP only, class "A" is applied to each pollutant which is below the 10 T/yr threshold, but which contributes to a plant total in excess of 25 T/yr of all NESHAP pollutants.

SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.

B = Actual and potential emissions below all applicable major source thresholds.

C = Class is unknown.

ND = Major source thresholds are not defined (e.g., radionuclides).